

Video Architecture AGL AMM Spring 2019 Tokyo notes

Use cases

- Backup camera
- 360 camera view
- Video media player
- Streaming content (including cameras)
- Rear-seat(s) video playback
- Content casting
- DRM (i.e. HDCP, Widevine, ...)
- Second screen? (i.e. Amazon X-Ray)

Requirements

- Backup camera demo app for CES 2020
 - P1 - full-screen video playback of camera stream (real-time)
 - P1 - overlay of guidance lines factoring in steering column direction
 - P1 - overlay of proximity sensors info into app view
 - P2 - implement computer vision for object detection and visual feedback
 - P1 - Re-use all logical elements of the Video Arch underneath
- Video player demo app for CES 2020
 - P1 - local media playback (i.e. standard MP4/H.264/AAC)
 - P1 - Full HW accelerated decoding
 - P1 - Full HW / Zerocopy video playback
- Youtube leanback demo app for CES2020
 - P3 - Full HW accelerated decoding
 - P3 - Full handshake support for HDCP
- Rear-seat entertainment demo for CES2020
 - P1 - Selection of the content from the front screen
 - P2 - Display content overlay local to the SBC for rear-seat
 - P2 - Volume control + UI
 - P3 - Trickplay
- General demo requirement
 - P1 - Modal window support for interactive priority notifications (i.e. incoming call notification actions: answer/drop/screen; mock-up for navigation cues)

Market Survey

- Cinemo (Proprietary software media player)
- Jungo Media
- IRDeto
- VLC (free software implementation of codecs/formats/containers/remote transport/crossplat playback/capture)
- GStreamer (multimedia pipeline framework)
- FFmpeg (free software implementation of codecs)
- V4L, RequestAPI, VAPI
- Google Camera API (please do not use that)
- Pipewire (graph based media framework)
- DRM: PlayReady, Dash, Widevine, ...

Which expert group should own Video Arch.?

- Most likely candidates are:
 - Connectivity
 - Graphics & UI
- Ruled out groups are:
 - ~~Application framework~~
 - ~~Virtualization~~
 - ~~Speech~~
 - ~~Instrument cluster~~
 - ~~Vehicle-to-Cloud~~

Action items

- ☐ Wait to ask whether Graphics and UI will take on Video Arch

